

## REMARKS

Applicants will address each of the Examiner's rejections in the order in which they appear in the Office Action.

### Claim Rejections - 35 USC §103

#### Claims 1, 4, 8, 12, 16 and 24

In the Office Action, the Examiner rejects Claims 1, 4, 8, 12, 16 and 24 under 35 USC §103 as being unpatentable over Maekawa in view of Kusumoto et al. This rejection is respectfully traversed.

More specifically, in the Office Action, the Examiner admits that Maekawa does not disclose a laser beam having a wave length of 360-650nm nor that the laser beam is selected from a second harmonic of a YAG laser. The Examiner, however, contends that Kusumoto discloses using a second harmonic of a YAG laser and that a second harmonic of 532nm. The Examiner also contends that one having ordinary skill in the art would have been motivated to modify the process of Maekawa by performing laser annealing using the second harmonics of a YAG laser in place of an excimer laser because the second harmonic has a sufficient absorption coefficient to the amorphous semiconductor film and can crystallize the semiconductor film with a high degree of energy efficiency.

Applicants respectfully submit that there is no disclosure in either Maekawa nor Kusumoto that the second harmonic has a sufficient absorption coefficient to the amorphous semiconductor and can crystallize the semiconductor film with a high degree of energy efficiently. Accordingly, it is respectfully submitted that there is no motivation or suggestion to combine the references, as

suggested by the Examiner. Since the Court of Appeals of the Federal Circuit requires such a motivation or suggestion to combine references, the combination of these two references is improper.

Further, a laser beam having a wavelength from 360 nm to 650 nm can crystallize efficiently the structure remaining of the continuous crystalline region in a polycrystalline silicon film crystallized by heat treatment (see e.g. page 19, lns. 8-12 of the present application). In contrast, laser annealing using an excimer laser makes the polycrystalline silicon film obtained by the heat treatment melt. As a result, when using the laser of the claimed invention, the unclear grain boundaries of the crystalline grains formed by the heat treatment are eliminated, which this is not merely an optimization but a remarkable effect obtained using a laser beam having a wavelength from 360 nm to 650 nm.

Therefore, Applicants submit that these claims are patentable over the cited references. Accordingly, it is requested that this rejection be withdrawn.

#### Claim 20

The Examiner also rejects Claim 20 under 35 USC §103 as being unpatentable over Maekawa in view of Kusumoto et al. and further in view of Ohtani et al. This rejection is also respectfully traversed.

For the reasons discussed above, Applicants submit that this claim is also patentable over the cited references. Accordingly, it is requested that this rejection be withdrawn.

#### New Claims

Applicants are also submitting new Claims 53-64. New independent Claims 53 and 59 recite the steps of forming a gate insulating film and a gate electrode after the steps of the heat treatment

and the laser annealing. Applicants submit that neither Maekawa nor Kusumoto teach or suggest this feature.

Accordingly, independent Claims 53 and 59, and those claims dependent thereon, are patentable over the cited references and should be allowed.

Please charge our deposit account 50/1039 for any fee due for these claims.

Conclusion

Applicants respectfully submit that the present application is in a condition for allowance and should be allowed.

If any fee is due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,



Mark J. Murphy  
Registration No. 34,225

COOK, ALEX, McFARRON, MANZO,  
CUMMINGS & MEHLER, Ltd.  
200 West Adams Street, Suite 2850  
Chicago, Illinois 60606  
(312) 236-8500

RECEIVED  
FEB -2 2004

TECHNOLOGY CENTER 2800